



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RBE117-12020-W14
Job Sheet 185125



Part No: RBE117-12020-W14

Job Qty: 4 ea

Part Name: Mounting Ring Input Main Gear Box



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/23/18

Job Tracking No:

Due Date: 11/30/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBE117-12020-W14 Rev. 1 IPP Rev. A 18.09.26 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	4 Ea		11/30/18	0.00	0.00	Start Up Machining-3		
110	CNC Lathe	4 pcs		11/30/18	0.00	0.40	MORI NLX		
120	QC	4 pcs		11/30/18	0.00	0.00	QC2 Machining-4		
130	QC	4 pcs		11/30/18	0.00	0.00	QC8 Machining-4		
135	Outsource	4 pcs		11/30/18	0.00	0.00	Outsource1		
140	Outsource	4 pcs		11/30/18	0.00	0.00	Outsource12		
150	Packaging	4 pcs		11/30/18	0.00	0.00	Packaging2		
160	QC	4 pcs		11/30/18	0.00	0.00	QC6		
210	Packaging	4 pcs		11/30/18	0.00	0.00	Packaging3-1		
220	QC21-SA	4 Ea		11/30/18	0.00	0.00	QC21		

Part Op 110 - 1-Machine as per DWG. FC421 FOLIO REV: 4A DWG REV: 1 2-Deburr

Descriptions: 135 - 1--Issue P/O to Metcore ; P/O 041957 RC 40-45 2-Bead blast 3- Certificate of Conformity is required

NOTE DROP SHIP TO FINISHER Metcore to ship directly to Groupe Altech***

140 - -Issue P/O to GROUPE ALTECH; PO 041957 -Black oxide finish, MIL-C-13924C Class 1 -Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. -Material type; 4140 -Certificate of Conformity is required

GA 133

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MT-4140QT-R3.500	AISI 4140 Quenched & Tempered Steel Round Bar 3.500"	.9200 ft (.23 ea)	90-Start up Operation	
	Dia.		Operation	

5040570

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MT-4140QT-R3.500	1	10	0

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

cations

not be found.

Plex 10/23/18 8:00 AM Dart.lajeunesse.marie



Container No: S134534



Part: RBE117-12020-W14

Job No: 185125

Serial No/Batch: S134534

Revision: 1

Inspector:

Exp Date:

Instructions:

Date: 12/04/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

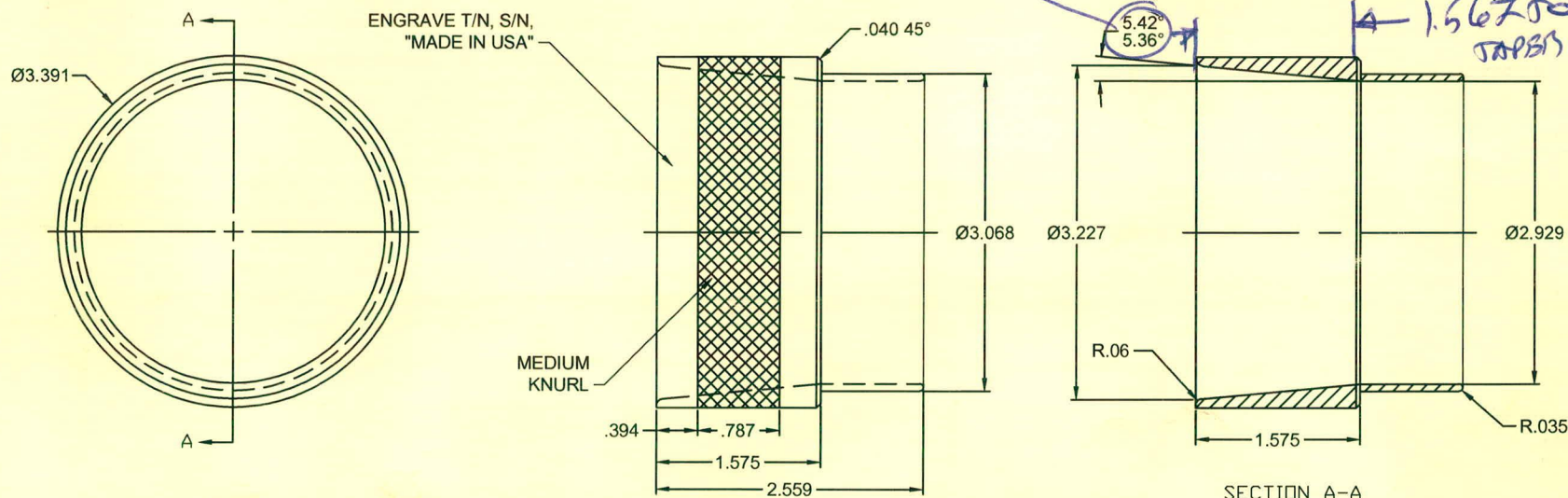
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																																																								
Description Work Order Deviation				Disposition				Completed By																																																							
								Lead hand / Supervisor Approval Verification																																																							
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Root Cause		FAULT CATEGORY																																																													
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
OTHER : _____																																																															

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REVISIONS			
REV	DESCRIPTION	DATE	INITIAL APPROVED
1	ADDED RADIUS .06	5/9/2013	CFS



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 185125 MWS
18-10-23

RED BARN MACHINE	
TITLE MOUNTING RING INPUT MGB	
DWG NO. RBE117-12020-W14	REV 1
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ON:	
DECIMALS .XXX ± .005	FRACTIONS ± 1/32
.XX ± .01	ANGLES ± .5°
X ± .1	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
DRAWN BY: CLOUGH	
APPROVED: <i>D. Wood</i>	
HEAT TREAT: RC 40-45	
FINISH: BLACK OXIDE	
SPEC	
USED ON MODEL: EC145	
SCALE: NTS	DATE: 7-14-10
SHEET: 1 of 1	

ASSY QTY	ASSY #	B/O	PART #	UNIT QTY	DESCRIPTION	MATERIAL	B/O INFORMATION OR SPECIFICATIONS
			-1	1	MOUNTING RING	4140	Ø3-1/2 x 2-3/4
	ASSY #						



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Tel (613) 632-5200

PURCHASE ORDER **PO041957**

Supplier: ATL002-VC
Atlantic Heat Treat 2001
401 Frankcom
Ajax
ON
L1S R14 Canada
Phone: 866 257 6395

PO No: PO041957
PO Date: 12/5/18
Due Date: 12/10/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	185125	RBE117-12020-W14	Mounting Ring Input Main Gear Box 1-Issue P/O to Metcore ; P/O RC 40-45 2-Bead blast 3- Certificate of Conformity is required 4-Black oxide finish, MIL-C-13924C Class 1 5-Apply thin layer of oil/CPC per MIL-PRF-16173 Grade 3 Class 1 or MIL-c-81309 Type III Or MILL-C23411A or MIL-PRF-81309 and wipe off excess. 6-Material type; 4140 7-Certificate of Conformity is required	Firmed	-	12/10/18	4 pcs	0 pcs	4 pcs	\$53.625/pcs	\$214.50

Line Item Note ** ship back to Dart **
This part is a rush, so anything you could do to turn it over quickly would be appreciated :)



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Tel (613) 632-5200

PURCHASE ORDER **PO041957**

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
2		C45-3-4	Pin 1-Issue P/O to Atlantic; P/O RC 53-56 2-Bead blast 3- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER Metcore to ship directly to Groupe Altech	Firmed	-	12/11/18	65 pcs	0 pcs	65 pcs	\$1.15385/pcs	\$75.00
Grand Total:											\$289.50

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 12/10/18 12:32 PM dart.tsimiklis.chrisoula

Shipping Ticket

Sold To: 1448**DART AEROSPACE LTD.**
1270 ABERDEEN ST

HAWKESBURY ON K6A 1K7

Ship To: 158297**DART AEROSPACE LTD.**
1270 ABERDEEN ST

HAWKESBURY ON K6A 1K7

Page 1 of 1

Purchase Order Number	Packing List No	Customer Job No	Route	Carrier
P0041957				

Quantity	Part No. / Part Name / Part Description	Pounds
4	PCS MATERIAL 4140 SAND BLAST AND HEAT TREAT TO 40-45RC BLACK OXIDE, C OF C, PRT# RBE117-12020-W14, JOB# 185125	

Container Type	# Of Containers	Cust Cont Id	Container Type	# Of Containers	Cust Cont Id
BOX	1				

NOTICE: OUR LIABILITY IS LIMITED TO OUR INVOICE CHARGES ONLY

Shipped Complete

Quantity Shipped: 4

Pounds Shipped: 4.00

DAS
38
9-89

AE

45 RC
B.O

12-17-18

Order No.: 161218

Shipped Complete

Quantity Shipped: 4.00

Received By:

Date:

Pounds Shipped: 4.00

Sold To: DART AEROSPACE LTD.

Shipped ON: 12/07/2018

Shipping List

No.	Description	Quantity	Unit	Value
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Certification

Date: 12/17/2018

Entry Date: 12/07/2018

Page: 1 of 1

To:

DART AEROSPACE LTD.
1270 ABERDEEN ST

Purchase Order No.: PO041957

Packing List No.:

HAWKESBURY ON K6A 1K7

Material: 4140

We are pleased to provide you with the following Certificate of Compliance.

Quantity	Part Number / Part Name / Part Description	Pounds
4	4 PCS MATERIAL 4140 SAND BLAST AND HEAT TREAT TO 40-45RC BLACK OXIDE, C OF C, PRT# RBE117-12020-W14, JOB# 185125	4

Insp. Type	Scale	Minimum	Maximum	Number	Other
Customer Requirements:					

Harden rockwell

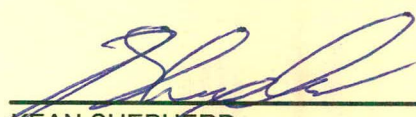
Results:

Harden ROCKWE 40. 45. 45. TESTED AS PER SAMPLING PLAN

HEAT TREATED TO 45 RC AS PER CUSTOMER REQUEST

BLACK OXIDE AS PER CUSTOMER REQUEST

STATEMENT OF LIMITED LIABILITY (PLEASE READ CAREFULLY). ALL WORK IS ACCEPTED SUBJECT TO THE FOLLOWING CONDITIONS: It is recognized that even after employing all the scientific methods known to us, hazards still remain in metal treating. THEREFORE, OUR LIABILITY SHALL NOT EXCEED TWICE THE AMOUNT OF OUR CHARGES FOR THE WORK DONE ON ANY MATERIAL (FIRST TO REIMBURSE FOR THE CHARGES AND SECOND TO COMPENSATE IN THE AMOUNT OF THE CHARGES), EXCEPT BY WRITTEN AGREEMENT SIGNED BY THE METAL TREATER. THE CUSTOMER, BY CONTRACTING FOR METAL TREATMENT, AGREES TO ACCEPT THE LIMITS OF LIABILITY AS EXPRESSED IN THIS STATEMENT TO THE EXCLUSION OF ANY AND ALL PROVISIONS AS TO LIABILITY ON THE CUSTOMER'S OWN INVOICES, PURCHASE ORDERS OR OTHER DOCUMENTS. IF THE CUSTOMER DESIRES HIS OWN PROVISIONS AS TO LIABILITY TO REMAIN IN FORCE AND EFFECT, THIS MUST BE AGREED TO IN WRITING, SIGNED BY AN OFFICER OF THE TREATER, IN SUCH EVENT, A DIFFERENT CHARGE FOR OUR SERVICES REFLECTING THE HIGHER RISK TO TREATER, SHALL BE DETERMINED BY THE TREATER AND CUSTOMER. THE TREATER MAKES NO EXPRESS OR IMPLIED WARRANTIES AND SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF THE FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, AS TO THE PERFORMANCE OF CAPABILITIES OF THE MATERIAL AS HEAT TREATED, OR THE HEAT TREATMENT. THE AFOREMENTIONED LIMITATION OF LIABILITY STATED ABOVE IS SPECIFICALLY IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, AND OF ANY OTHER SUCH OBLIGATION ON THE PART OF THE TREATER. No claim for shortage in weight or count will be entertained unless presented within five (5) working days after receipt of materials by customer. No claim will be allowed for shrinkage, expansion, deformity, or rupture of material in treating or straightening, except by prior written agreement, as above, nor in any case for rupture caused by or occurring during subsequent grinding. Whenever we are given material with detailed instructions as to treatment, our responsibility shall end with the carrying out of those instructions. Failure by a customer to indicate plainly and correctly the kind of material (i.e., proper alloy designation) to be treated, shall cause an extra charge to be made to cover any additional expense incurred as a result thereof, but shall not change the limitation of liability stated above. Customer agrees there will be no liability on the treater in contract for any special, indirect or consequential damages arising whatsoever, including but not limited to personal injury, property damage, loss of profits, loss of production, recall or any other losses, expenses or liabilities allegedly occasioned by the work performed on the part of the treater. It shall be the duty of the customer to inspect the merchandise immediately upon its return, and in any event claims must be reported prior to the time that any further processing, assembling or any other work undertaken. OUR LIABILITY TO OUR CUSTOMERS SHALL CEASE ONCE ANY FURTHER PROCESSING, ASSEMBLING OR ANY OTHER WORK HAS BEEN UNDERTAKEN ON SAID MATERIAL. No agent or representative is authorized to alter the above conditions, except by writing duly signed by an officer of treater.

DAS
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9-89
KEAN SHEPHERD
QUALITY CONTROL
ATLANTIC HEAT TREATING 2001 LTD

